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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,281	07/20/2000	Dong-Hoon Lee	3430-0126P	4261

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

NGUYEN, HOAN C

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/621,281

Applicant(s)

LEE, DONG-HOON

Examiner

HOAN C. NGUYEN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by applicant in view of Cole (US4398805).

Applicant admits (Fig. 3, page 3 lines 1-21) a transfective liquid crystal display device comprising:

- a liquid crystal display panel having a first transparent substrate 60, a second transparent substrate 50 as Fig. 3 shown,
- a liquid crystal layer 80 interposed between the first and second transparent substrates,
- the first transparent substrate having a color filter 61,
- the second transparent substrate having a pixel electrode 54 and a reflector,
- the reflector 52 made of an opaque conductive material (claim 4), and having a light transmitting hole which the pixel electrode 54 covers, the light transmitting hole transmitting light;
- a back light device 70.

It is well-known art that a pixel electrode is made of indium-tin oxide (ITO) for good transmissive and good conductive properties (claim 5).

However, applicant fails to disclose a transfective film located outside of the second transparent substrate of the liquid crystal display panel, and the transfective film is selected from a group consisting of Ag and Al.

Cole teaches (Fig. 1b) a transfective liquid crystal display device with disclose

- a transfective film 30 made of silver (col. 5 lines 2-5) located outside of the second transparent substrate 14 of the liquid crystal display panel;
- a back light device for supplying light toward the transfective film.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the prior as applicant admitted with a transfective film made of silver for regulating the transmittance and located outside of the second transparent substrate 14 of the liquid crystal display panel for viewing by reflective or transmitted light.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by applicant in view of Cole (US4398805) as applied to claim 1 above, and further in view of Angell et al. (US5821867A) and Hayashi et al. (US6204903B1).

Angell et al. teach (col. 2 line 64 to col. 3 line 2) the transfective film made of an acrylic-based resin for coloring. Furthermore, Hayashi et al. teach transfective (semi-

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transmissive reflector) produced by coating an acrylic resin for incorporating with a pearlescent pigment for coloration.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the prior as applicant admitted with a transfective film made of an acrylic-based resin for coloring due to incorporate with pigment.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Santana et al. (US5620348A) disclose method of manufacturing electro-luminescent lamps having surface designs with translector, which is made of aluminum.
- Grupp (US4904060A) discloses liquid crystal display cell having a diffusely-reflective counter electrode with reflector made of an opaque conducting material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SIKES L WILLIAM can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8178 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN  
Examiner  
Art Unit 2871

chn  
April 15, 2002

  
William L. Sikes  
Supervisory Patent Examiner  
Technology Center 2800